

APPENDIX F

ESSENTIAL FISH HABITAT ASSESSMENT



U.S. Department of Energy
National Energy Technology Laboratory

3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507-0880

626 Cochran's Mill Road
P.O. Box 10940
Pittsburgh, PA 15236-0940

NETL

*We Solve National Energy
and Environmental Problems*

January 24, 2000

Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division
Southeast Regional Office
National Marine Fisheries Service
9721 Executive Center Drive N.
St. Petersburg, Florida 33702

Dear Mr. Mager,

In response to your letter of September 30, 1999, regarding your review of the Draft Environmental Impact Statement for the proposed JEA Circulating Fluidized Bed Combustor Project, please find attached our Essential Fish Habitat (EFH) Assessment for this project. The proposed project involves cost-shared funding for the demonstration of circulating fluidized bed combustion technology at JEA's existing Northside Generating Station in Jacksonville, Florida.

It is our assessment that the proposed project would not adversely affect EFH and, therefore, no consultation is required. Please contact me at (304) 285-4992 or at the address shown above if you require additional information or if your findings should disagree. Please note that our Center, formerly the Federal Energy Technology Center, is now the National Energy Technology Laboratory. We are currently preparing the Final Environmental Impact Statement for the project, so we would appreciate a timely response should you have any concerns, so that we may address those concerns as soon as possible. Thank you.

Sincerely,

A handwritten signature in black ink that reads "Lisa K. Hollingsworth".

Lisa K. Hollingsworth
NEPA Document Manager

JEA Circulating Fluidized Bed Combustor Project Jacksonville, Florida Essential Fish Habitat Assessment

Proposed Project. The proposed project is to design, construct, and demonstrate a new circulating fluidized bed (CFB) combustor that would repower the existing Unit 2 steam turbine at JEA's (formerly the Jacksonville Electric Authority's) Northside Generating Station in Jacksonville, Florida. CFB technology is an advanced method for burning coal and other fuels efficiently while removing air emissions inside the sophisticated combustor system. By generating nearly 300 MW of electricity, the proposed project would be built at a scale large enough to allow the power industry to assess technical, environmental, and financial data from the project and determine the potential of the technology for commercial application. DOE is preparing an environmental impact statement (EIS) as part of the National Environmental Policy Act (NEPA) process to assist in making a decision on whether to provide approximately \$73 million (about 24% of the total project cost of \$309 million) in cost-shared funding to design, construct, and demonstrate the CFB technology. JEA has indicated that construction may begin at their own risk without DOE funding prior to the completion of the NEPA process in early 2000 and would continue for more than 2 years. Demonstration of the proposed project would be conducted during a 2-year period from approximately March 2002 until March 2004. If the demonstration is successful, commercial operation would follow. The design life of the facility is 30 years. JEA also plans to repower the currently operating Unit 1 steam turbine without cost-shared funding from DOE. The Unit 1 steam turbine would be essentially identical to the turbine for Unit 2 and would be repowered about 6 to 12 months after the Unit 2 repowering.

The proposed CFB combustor would use bituminous coal and petroleum coke to produce steam to drive the existing Unit 2 steam turbine, a 297.5-MW unit that has been out of service since 1983, and generate electricity. Piping and related infrastructure would be constructed to link the new combustor with the existing steam turbine. During the demonstration, Unit 2 would be operated on several different types and blends of coal and petroleum coke to explore the flexibility of the CFB technology. The coal would be transported by ship (from areas such as Columbia and Venezuela), by train (primarily from the central Appalachian region such as West Virginia and eastern Kentucky), and by a combination of train and ship (train from West Virginia and eastern Kentucky to Newport News, Virginia, and ship from Newport News to Jacksonville). The petroleum coke would be transported by ship from oil refineries in Venezuela and the Caribbean region. Limestone for the CFB combustor probably would be transported by ship from the Caribbean region and the Yucatan Peninsula of Mexico. The proposed project is expected to demonstrate emission levels of sulfur dioxide (SO₂), oxides of nitrogen (NO_x), and particulate matter that would be lower than Clean Air Act limits while at the same time producing power more efficiently and at less cost than conventional coal utilization technologies. JEA's management has established a target of a 10% reduction in annual stack emissions of each of 3 pollutants (SO₂, NO_x, and particulate matter) from Northside Generating Station (Units 1, 2, and 3),

as compared to emissions during a recent typical 2-year operating period (1994–95) of the station (Units 1 and 3). Also targeted for a 10% reduction is the total annual groundwater consumption of Northside Generating Station, as compared to 1996 levels. These reductions are to be accomplished while increasing the total annual energy output of the station.

Northside Generating Station occupies a 400-acre industrial site along the north shore of the St. Johns River about 9 miles northeast of the downtown area of Jacksonville. The local terrain is flat and there is a mix of industrial, commercial, residential, and agricultural land use in the vicinity. The property contains a number of wetland areas, especially in the perimeter areas. The industrial 1,650-acre St. Johns River Power Park borders Northside Generating Station to the northeast, and the 46,000-acre Timucuan Ecological and Historic Preserve borders the site to the east. Blount Island, located immediately to the southeast in the St. Johns River, is a major port with facilities for docking, loading, and unloading large ocean-going vessels. The proposed project would occupy a total of about 75 acres of land on the Northside Generating Station and St. Johns River Power Park property.

Analysis of EFH Effects. A Draft EIS was prepared for the project in accordance with the requirements of NEPA and was released for review in August 1999. The draft EIS examined potential project impacts on air quality, surface water, groundwater, floodplains and wetlands, ecological resources, noise, transportation, solid waste, and cultural and socioeconomic resources. Findings related to EFH are summarized below.

With regard to surface water resources, no change in the existing utilization or consumption of surface water would occur during the construction phase of the proposed project. All construction would be performed in accordance with an erosion and sedimentation control plan. Impacts attributable to construction-related runoff, turbidity-causing agents, erosion, and sedimentation would be negligible.

Because Unit 2 has not operated since 1983, the proposed project (the repowering of Unit 2) would increase the demand for noncontact cooling water. After Unit 2 is repowered, the demand by the entire 3-unit plant would be approximately the same as when the three units operated together from approximately 1978 until 1980. The sustained flow of the back channel of the St. Johns River would not be depleted by this diversion because nearly all of the withdrawn cooling water would be returned to the river after passing through the condensers. The amount of heat discharged to the St. Johns River would also increase as a consequence of the proposed project. However, modeling shows that the size of the thermal plume would not increase because simultaneous operation of all three units would increase the discharge velocity and enhance mixing. Bottom-dwelling organisms such as macroinvertebrates would not experience effects as a result of thermal discharges because the discharge plume is directed upward and is largely a surface phenomenon.

Construction and demonstration of the proposed project would not measurably affect estuarine emergent macrophytes identified as EFH. No more than 1.8 acres of isolated hardwood wetland habitat would be lost

during construction of the ash storage area and disturbance of salt marsh habitats during construction of the solid fuel delivery system would be negligible. Wetlands associated with the upper salt marsh communities would not be measurably affected because nearly all of the conveyor system for solid fuel delivery associated with either unloading option would span these habitats (salt marsh systems) using existing structures and would involve no clearing or earthmoving activities. Option 1 is to construct a second unloader at the existing St. Johns River coal terminal that receives coal and petroleum coke delivered by ship and conveys the fuel to the St. Johns River Power Park. Option 2 is to construct a new unloading terminal to receive coal, petroleum coke, and limestone delivered by ship, as part of an upgraded unloading facility that would replace Northside's existing fuel oil unloading dock. Although some pilings could need to be installed at the upper fringes of the salt marsh and in San Carlos Creek, any impacts resulting from piling installation would be very localized and temporary and would not measurably affect the normal structural and functional dynamics of the salt marsh and nearby estuarine ecosystems. To offset the loss of 1.8 acres of hardwood wetlands during construction of the ash storage area, JEA would purchase 3 credits (slightly greater than 3 acres) of wetlands from an offsite mitigation bank and would restore 1 acre of salt marsh, which together would result in a mitigation ratio of greater than 2.2 to 1 (more than 4 acres of wetlands gained to 1.8 acres lost). The 1.8 acres of hardwood wetlands are not high quality habitats as evaluated by the Corps of Engineers WRAP (Wetlands Rapid Assessment Procedure). The site for the ash storage area includes a 200-ft buffer zone extending to the San Carlos Creek floodplain, which would minimize or avoid any impacts to the San Carlos Creek system. The project would result in a net increase of EFH compared with existing EFH. Both the Corps of Engineers and the Florida Department of Environmental Protection have given approval for this plan of action.

JEA plans to set aside and preserve 15 acres of undisturbed, uplands maritime oak hammock along the west bank of San Carlos Creek. By preserving the land, JEA would maintain habitat for wildlife, help protect the water quality of the creek, and leave a high-quality forested buffer area in a developing industrial area.

During construction, standard engineering practices such as straw berms, liners, cover materials, and grading would be implemented as required to minimize runoff, erosion, and sedimentation near the site. Accidental spills of construction materials such as solvents, paint, caulk, oil, and grease that could contain hazardous substances would be cleaned up in a timely manner and in accordance with a spill prevention, control, and countermeasure plan. Runoff from facilities that would be built as part of the proposed project would be used in plant processes or routed through detention basins equipped with baffles or oil skimmers before being discharged at stormwater outfalls. The detention basins would reduce the maximum rate of stormwater discharge by increasing the length of time during which the discharge occurred. The baffles or oil skimmers would collect contaminants such as oil and grease that float on top of the stormwater. Accidental spills from the proposed facility would be cleaned up in a timely manner in accordance with a spill prevention, control, and countermeasure plan and the best management practices plan for the facility. Tanks containing liquids

such as fuel oils, waste oils, turbine lubrication oils, and fuel additives are either surrounded by berms or dikes that would contain accidental leaks or spills, or have controlled drainage areas whose runoff is routed to and collected in sumps that are piped into the wastewater treatment system. Impacts associated with transfer piping failure or leakage would be minimized because the piping is inspected on a daily basis and more frequently while pumping is in progress, and most pipeline failures manifest themselves as small-scale, gradually increasing leaks that would be detected during routine inspection before excess leakage would impact the environment.

Determination. Based on the scope and nature of impacts expected from the proposed project and the measures identified above, DOE has determined that there would be no measurable adverse individual or cumulative effects on EFH at the project location resulting from the proposed project.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

February 23, 2000

Ms. Lisa K. Hollingsworth
National Environmental Policy Act Document Manager
U.S. Department of Energy, Federal Energy Technology Center
3610 Collins Ferry Road
P.O. Box 880
Morgantown, West Virginia 26507-0880

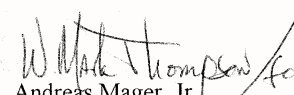
Dear Ms. Hollingsworth:

The National Marine Fisheries Service (NMFS) has reviewed your letter dated January 24, 2000, regarding the Draft Environmental Impact Statement regarding the JEA (formerly the Jacksonville Electric Authority) Circulating Fluidized Bed Combustor Project, in Jacksonville, Florida. The project is located adjacent to San Carlos Creek, St. Johns River, in Duval County, Florida.

The direct wetland impacts associated with this project include the filling of 1.8 acres of isolated hardwood wetlands from the construction of the ash storage area. To mitigate wetland impacts, the JEA would purchase approximately 3 acres of wetlands from an off-site mitigation bank and restore 1 acre of salt marsh. In our letter, dated September 30, 1999, the NMFS identified estuarine emergent wetlands as Essential Fish Habitat (EFH) and requested that any impacts to this habitat be identified. The NMFS is concerned about the secondary impact to tidal wetlands from the potential shading of the conveyor system associated with the two proposed unloading options.

The Department of Energy has determined that the construction and demonstration of the proposed project would not have an adverse effect on EFH. However, the NMFS would like more information on the secondary impacts to tidal wetlands and those impacts quantified. The NMFS would also like specific information addressing the proposed tidal wetland restoration. Thank you for your consideration of our comments. If you have questions, please contact Jennifer Robinson of our Panama City Office at 850/234-5061.

Sincerely,


Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

March 27, 2000

Ms. Lisa K. Hollingsworth
National Environmental Policy Act Document Manager
U.S. Department of Energy, Federal Energy Technology Center
3610 Collins Ferry Road
P.O. Box 880
Morgantown, West Virginia 26507-0880

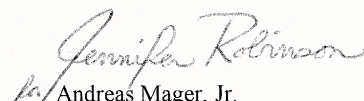
Dear Ms. Hollingsworth:

The National Marine Fisheries Service (NMFS), per telephone conversation on March 1, 2000, with Robert Miller, Oak Ridge National Laboratories, was provided with additional information regarding the Draft Environmental Impact Statement for the JEA (formerly the Jacksonville Electric Authority) Circulating Fluidized Bed Combustor Project, in Jacksonville, Florida. The project is located adjacent to San Carlos Creek, St. Johns River, in Duval County, Florida.

The NMFS was concerned about the secondary impact to tidal wetlands from the potential shading of the conveyor system associated with the two proposed unloading options. Based upon our conversation, the conveyor system would be 10 feet wide, be elevated 7-8 feet above the marsh, and approximately 950 feet of length of the conveyor would cross tidal wetlands. Therefore, the conveyor system would shade approximately 0.22 acre of tidal wetlands. To mitigate wetland impacts, the applicant proposes to restore 1 acre of tidal wetlands. The proposed mitigation site was filled in the 1960's for an equipment storage site and restoration activities involve scraping down the area and planting tidal vegetation.

The Department of Energy has determined that the construction and demonstration of the proposed project would not have an adverse effect on Essential Fish Habitat (EFH). The NMFS concurs with this determination that the project would not adversely affect EFH. Therefore, the NMFS will have no further objection to this project. We appreciate working with your staff to resolve our concerns. If you have questions, please contact Jennifer Robinson of our Panama City Office at 850/234-5061.

Sincerely,


Jennifer Robinson
Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

